## IN THE CLAIMS:

Amend the claims to read as follows:

- 1. (currently amended) An ultrasonic probe including-comprising:
- a transducer located at a distal end of the probe, the transducer being moved within the chamber to scan an image region outside the probe; comprising:
- a fluid chamber enclosing the transducer within the probe;

an acoustic fluid which is highly transmissive of ultrasound located in the fluid chamber; and

- a thin-walled volume compensation balloon formed of a high performance thermoplastic material, and located completely within the probe in fluid communication with the fluid chamber, the volume compensation balloon containing a small fraction of the fluid of the fluid chamber at room temperature.
- 2. (currently amended) An ultrasonic probe including-comprising:
- a transducer located at a distal end of the probe, the transducer being moved within the chamber to scan an image region outside the probe; comprising:
- a fluid chamber enclosing the transducer within the probe;

an acoustic fluid which is highly transmissive of ultrasound located in the fluid chamber; and

a thin-walled volume compensation balloon <u>located</u>

<u>completely within the probe and</u> formed of a high performance thermoplastic material in fluid communication with the fluid chamber, the volume compensation balloon containing a small

fraction of the fluid of the fluid chamber at room temperature,

wherein the thin-walled balloon is formed of a non elastomeric thermoplastic material.

- 3. (original) The ultrasonic probe of Claim 2, wherein the thin-walled balloon exhibits a low permeability to the acoustic fluid.
- 4. (original) The ultrasonic probe of Claim 3, wherein the thin-walled balloon exhibits a high compliance over the designed temperature range of transport and use.
- 5. (original) The ultrasonic probe of Claim 4, wherein the thin-walled balloon exhibit a high thermal stability and is operated at or below the glass transition temperature for the thermoplastic material.
- 6. (original) The ultrasonic probe of Claim 1, wherein the acoustic fluid comprises a silicone oil.
- 7. (currently amended) An ultrasonic probe  $\frac{ineluding-comprising:}{}$
- a transducer located at a distal end of the probe, the transducer being moved within the chamber to scan an image region outside the probe; comprising:
- a fluid chamber enclosing the transducer within the probe;
- an acoustic fluid which is highly transmissive of ultrasound located in the fluid chamber; and
- a thin-walled volume compensation balloon <u>located</u>

  <u>completely within the probe and</u> formed of a high performance
  thermoplastic material in fluid communication with the fluid
  chamber, the volume compensation balloon containing a small

fraction of the fluid of the fluid chamber at room temperature.

wherein the non elastomeric thermoplastic material comprises a PET polymer.

- 8. (original) The ultrasonic probe of Claim 7, wherein the thin-walled balloon exhibits a high burst strength.
- (currently amended) An ultrasonic probe includingcomprising:
- a transducer located at a distal end of the probe, the transducer being moved within the chamber to scan an image region outside the probe; comprising:
- a fluid chamber enclosing the transducer within the probe;
- an acoustic fluid which is highly transmissive of ultrasound located in the fluid chamber; and
- a thin-walled volume compensation balloon <u>located</u> completely within the probe and formed of a high performance thermoplastic material in fluid communication with the fluid chamber, the volume compensation balloon containing a small fraction of the fluid of the fluid chamber at room temperature,

wherein the thin-walled balloon exhibits a high compliance of less than 2 psi per ml; a low permeation rate to acoustic fluid of less than 1.0; a high burst strength in excess of 10 atmospheres; and a thermal stability which does not significantly decrease compliance at low temperatures of operation.

- 10. (currently amended) An ultrasonic probe for three dimensional imaging comprising:
  - a probe body enclosing a fluid chamber;

an array transducer movably mounted within the fluid chamber:

a drive mechanism coupled to the array transducer to move the array transducer during scanning;

an acoustic fluid located within the fluid chamber: and

- a volume compensation balloon located completely within the probe and in fluidic communication with the fluid chamber, the balloon being formed of a substantially non elastic material and being partially expanded at room temperature.
- 11. (original) The ultrasonic probe of Claim 10, wherein the balloon is approximately half filled with acoustic fluid at room temperature.
- 12. (original) The ultrasonic probe of Claim 11, wherein the balloon contains less than 20% of the fluid of the fluid chamber at room temperature.
- 13. (original) The ultrasonic probe of Claim 10, wherein the balloon is formed of a high performance thermoplastic.
- 14. (original) The ultrasonic probe of Claim 13, wherein the balloon is formed of a PET polymer.
- 15. (original) The ultrasonic probe of Claim 10, wherein the compliance of the wall of the balloon is substantially constant over a design temperature range of transport and use.
- 16. (original) The ultrasonic probe of Claim 15, wherein the design temperature range of use extends below  $0\,^{\circ}\text{C}.$
- 17. (original) The ultrasonic probe of Claim 10, wherein the wall thickness of the balloon is less than 1.0 mil, and

wherein the wall of the balloon exhibits a low permeability to the acoustic fluid.

18. (original) The ultrasonic probe of Claim 10, wherein the probe body comprises a shaft designed for intracavity use of the probe.